

- 8) - arm on side of convexity, hangs further away.
- 9) - transverse processes on convexity from a prominence on back because of rotation.
- 10) - back looks broader on convexity side.
- 11) - spinous processes deviate from str. line.

Dorsal curve.

- 1) - spinous process deviate from str. line
- 2) - scapula on convexity is further away & higher than convexity owing to ribs rotating.
- 3) - one shoulder higher on convexity side unless a cervical curve compensates.
- 4) - ribs on convexity become prominent.
- 5) - back broader on convexity.

Cervical curve.

- 1) - alteration of neck outline.
longer on convexity - less curve.
distance from ear to acromion process longer.
 - 2) - spinous processes out of str. line.
- rit - Examine patient carefully for abnormalities.
- Stand in good light.
 - Decide type - look for bad habits.
 - Examine in detail - feet first.
 - Legs - Anus - Knocks - Knees.
 - Any signs of curves in lumbar, dorsal, cervical curves.
 - Go to front.

- Patient stops to touch toes.
- see length of hamstrings.
- match spine as she comes up.

Slight curve perhaps.

Test mobility of spine.

Str. sitt. 2 H.R.S. (fixed pelvis)

side bend'g. - bend should be even to side.

- limited in rotation to left if it is a left curve.

- hang'g - spine mobile if processes in line.

1st degree postural scoliosis.

2nd degree - spine improved by hang'g.

3rd degree - spine - practically unimproved.

(can improve muscular development & breathing).

Aims of treatment for postural scoliosis.

Half - single D. stretch'g, against resistance.

by. knee up drawing, - side flexors of pelvis resistance.

1st degree - 1/2 hr. to talk ~~str. sitt.~~ str. sitt.
Dorsal. single D. up stretch'g & down pressing.

2nd degree - 1/2 hr. to talk
Back by. knee up drawing.

3rd degree - 1/2 hr. to talk
By. side. grasp at leg out, carrying & in pressing.

4th degree - 1/2 hr. to talk
H.R.S. str. sitt. press against gymnast resist push.

lumbar curve.

✓

Hph. - rch. - gsk. - st. leg outward carrying
+ impressing.

Diagram places hand on great trochanter
on side of concavity. st. hand of
ankle to be moved.

leg carried out to side against resistance.
leg brought in patient resists.

Joints moving

(Concentric D.L.)

- 1) Hip (if leg ^{standing} moving) - abductors + adductors
- 2) Hip (standing) - adductors
- 3) lumbar spine - flexors of side of pelvis
- 4) Hip (standing) - abductors of leg

✓ D. F. 1. Bluteus Med. + Min.
All abduct hip + rotate her in.

Concentric

✓ Pelvis up - Obliquus int. + int. abd. +
rectus abd.

- quadratus lumborum
erector spinae

Min

✓ Adductors - longus + brevis

Concentric - full range, inner range.
2nd movement.

✓ Joints + muscles same.

Diagram lower pelvis - abductors +
adductors lowered eccentrically.

Static - Extensors of knee

Back muscles - kept spine erect.

Abdominals - keep spine erect.
 Ant. & post. neck - keep head erect.
 Pectorals shoulder on - keep shoulders back
 Extensors - elbow wrists
 Hands - fingers.

Use

Tilting of pelvis + strengthening of
 erector - spinae muscles.

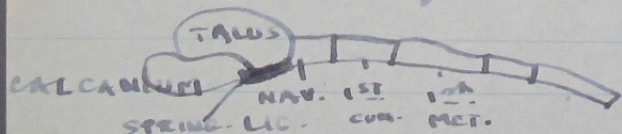
Oral care

Half, ~~back~~ stretch - A. on sides of, ~~concomitantly~~.

Try to rith. pos. if patient has bad posture.
 - progress to kneel'g + stand'g.

Flat Feet

Internal longitudinal arch. Pes. Planus.
 - rests on ground - heel + 1st metatarsal.



Anterior transverse arch

- under head of metatarsals.
 - present when wt. is off foot.



Arches give spring & elasticity.

External longitudinal arch

Flat foot - dropping of longitudinal arch.
secondary - transverse arch too.

Morton's disease - metatarsalgia.
- dropping of transverse arch.

Muscles under foot.

Glans digitorum longus.

" " brevis

" hallucis longus.

Long plantar.

Short lig.

Ligaments.

1) Spring lig. (Calcaneum + Talus)

Spring arch.

2) Tibialis Ant. + Post.

3) Long int. fibres on outside of foot.

4) ADDUCTOR TRANSVERSUS HALLUCIS.

Interossei - dorsal + plantar.

Inter-metatarsal lig.

Lumbricals.

Causes.

I. Alteration of line of int. (position)

1) Knock knees.

2) Valgus ankle.

3) Standing slackly - in bent knees

4) Flatness round ankle joint.

II Loss of muscle tone in muscle responsible for maintaining arch.

1) general debilitating diseases

2) Prolonged standing.

III

IV Congenital Flat foot.

- children develop arches.

● Short shoes - come on toes.

Exercises for Indosis.

Mobility.

Wing. H. R. S. Trunk Rolling.

" " " Alt T. Rotation.

Std. st. Heaving - swinging.

Long sitt. prod. bending to touch toes.

by alt. hip - upraising.

Stretching.

Crk. support hanging.

" sitting against upright.

● Resting in prone over pillow.

Corrective.

Crk. by head lifting.

Crk. by abd. contraction.

Crk. by head & knee raising.

Crk. by 2 kn. upraising & depressing.

Wing low sth. H. R. S. T. back.

drawing to vertical.

Wing grasp sitt. alt. 2 kn. upraising.

Muscle Action in arch by 2 kn.
updrawing + down pressing.

on

or

<u>Joints</u>	<u>Muscles</u>	<u>Name</u>	<u>Method</u>
1) Hip	Gluteals	Ext. press	Concentric
2) Knee	Ahd.	Rect. Ahd.	Inner.
3) Ankle		Ahd. Ext.	
4) Spine			
5) Sacro-iliac		Ahd. Int.	

Changes in Structure.

- 1) Muscles on longitudinal arch atrophy & stretch. T.A. + P.
- 2) Lig. stretched & weak.
- 3) Displacement in joints & irritation of joint surfaces.
- 4) Changes in positions of bones of foot.
- 5) Alteration to foot.
- 6) Alteration of bones themselves.

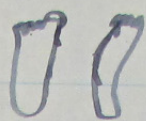
Atrophy of bones - waste - lack of blood
underdevelopment.

Hypertrophy - lack of blood - bones waste

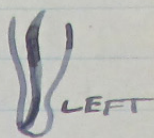
Symptoms & Signs

- 1) Aching under arch & metatarsals + ankle.
- 2) Foot swelling. OEDEMA.
- 3) Foot smarts
- 4) Calluses.
- 5) Alteration of gait - shuffling - foot no spring.
- 6) Flattening of arch - lined out. falling on inner border.

- navicular prominent.



2.) Tendo Achilles not straight.



Mobility - If far enough advanced - lig. & joints affected - loss of mobility - stiffness, rigidity.

1st degree - Changes in muscles & lig. postural, mobile flat foot.

2nd degree - Alteration in joint surfaces, loss of mobility.

3rd degree - Rigid.

Treatment

1st degree - 1) Mobilize foot - tone muscles of arch. 2) Teach patient correct way of standing, etc. - foot - conscious.

2nd degree - 1) Rest before treatment.

2) Improve circulation, vigorous massage.

3) movements, exercise.

3rd degree (some 2nd degree) Orthopedic surgeon.

1) Anesthetic - foot wrenching (flexible manipulation).

2) Plaster boots - arch reformed. heat - massage movements.

3) Operation - wedge out of navicular.

Arch supports.

- 1) All fitting.
- 2) Hold up arch for muscles.
- Can be worn during treatment or prescribed.
- 1) Whitman's side plates - metal - heel to metatarsals.
- 2) Shoe is wedged - $\frac{3}{8}$ " on inner border of shoe - side + heel - int. goes to outer border.

Exercises for Flat Feet.

1st degree - comparatively mobile.

Mobility - no weight.

- 1) - Foot rolling - sitting on chair
1st with help of hands.
- 2) - Raising on toes - alt. int. held
each movement - with int.
changing.

Corrective - no weight.

Invertor - tilts ant. + post.

Long plates -

- 1) Sitt. pos. st. L. between
foot + floor + at knee.
Foot turning in.
- 2) Sitt. pos. foot coming up
front of other leg.
- 3) Sitt. pos. feet crossed,
lower foot inverts.

long heels - without mt.

- 1) alt. foot crawling, prone. with
dorsiflexion of toes. (caterpillar)
- 2) alt. foot picking up objects with
toes.

humbrians.

- 1) Shorten the foot - the toes don't curl
under - clawing.

Exercises - with mt.

- 1) Feet parallel - press back. mt.
on outer borders of foot.
- 2) Walking on outer borders of foot.
toes turned in.
Inclined board.
- 3) Correct walking + sitting positions.
+ stand'g on outer borders.



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